

CLAIMS

What is claimed is:

1. An apparatus for retaining a radiographic sensor element, comprising:
a bite block;
a first jaw member extending from said bite block;
a movable second jaw member in opposition to said first jaw member; and
means for providing variable positional adjustment of said second jaw
member in relation to said first jaw member.
2. An apparatus as recited in claim 1, wherein said means for providing
variable positional adjustment comprises a threaded member connecting said
movable second jaw member to said first jaw member.
3. An apparatus as recited in claim 2, further comprising an adjustment
knob attached to said threaded member for increasing the available leverage upon
said threaded member.
4. An apparatus as recited in claim 1, further comprising a compliant
material joined to at least one of said jaw members for distributing compression
forces.
5. An apparatus as recited in claim 1, further comprising means for
aligning an external radiographic emission source with said first jaw member and
said second jaw member.
6. An apparatus as recited in claim 5, wherein said means for aligning
external radiographic emission source comprises an elongated member extending
from said bite block to provide a positional reference.

7. An apparatus as recited in claim 6, wherein said elongated member extending from said bite block is configured for the retention of at least one alignment guide.

8. An apparatus as recited in claim 7, wherein said alignment guide comprises a ring configured for slidable engagement with said elongated member.

9. An apparatus as recited in claim 7, wherein said alignment guide comprises an alignment arm assembly adapted for slidable engagement with said elongated member.

10. An apparatus as recited in claim 9, wherein said alignment arm assembly comprises:

an engagement member adapted for engaging said alignment guide; and
an elongated arm joined to said engagement member.

11. An apparatus as recited in claim 1, wherein said apparatus is molded from a polymeric material.

12. An apparatus as recited in claim 1, further comprising protrusions extending from said bite block which are configured for securely engaging dental structures.

13. An apparatus for retaining a radiographic sensor element for positioning within the mouth, comprising:

a bite block;
a first jaw member extending from said bite block;
a movable second jaw member slidably engaged with said bite block; and
a threaded member engaged between said second jaw member and said bite block, and configured for providing continuously variable distance adjustment for retaining a radiographic sensor between said first jaw member and said second jaw

member in response to the rotation of said threaded member.

14. An apparatus as recited in claim 13, wherein said apparatus is molded from a polymeric material.

15. An apparatus as recited in claim 13, further comprising protrusions extending from said bite block that are configured for engaging dental structures.

16. An apparatus as recited in claim 15, wherein said protrusions comprise circular protrusions having a rounded head extending from said bite block.

17. An apparatus as recited in claim 16, wherein said rounded heads extend from said bite block from a minimum of approximately 0.05 inches to a maximum of approximately 0.2 inches.

18. An apparatus as recited in claim 13, wherein said second jaw member comprises at least two separate sections configured for engaging a sensor package having a non-planar surface.

19. An apparatus as recited in claim 13, further comprising compliant material joined to at least one of said jaw members.

20. An apparatus as recited in claim 19, wherein said compliant material comprises a compliant band that encircles a portion of at least one of said jaw members.

21. An apparatus as recited in claim 20, wherein said compliant band comprises a compliant band of latex or silicone based material.

22. An apparatus as recited in claim 21, wherein said compliant band is joined to said first jaw member.

23. An apparatus as recited in claim 13, further comprising a rotational input receiving member joined to said threaded member and configured for increasing rotational leverage upon said threaded member.

24. An apparatus as recited in claim 23, wherein said rotational input receiving member can be selected from the group of leverage increasing input members, consisting of heads, knobs, and cranks.

25. An apparatus as recited in claim 23, wherein said rotational input receiving member is affixed to a terminating end of said threaded member.

26. An apparatus as recited in claim 13, further comprising means for aligning an external radiographic emission unit with said first jaw member and said second jaw member.

27. An apparatus as recited in claim 26, wherein said means for aligning an external radiographic emission unit comprises an elongated member extending from said bite block to serve as a positional reference.

28. An apparatus as recited in claim 27, wherein said elongated member extending from said bite block is configured for the retention of at least one alignment guide.

29. An apparatus as recited in claim 28, wherein said alignment guide comprises a ring configured for slidable engagement upon said elongated member.

30. An apparatus as recited in claim 28, wherein said alignment guide comprises an alignment arm assembly configured for slidable engagement with said elongated member.

31. An apparatus as recited in claim 30, wherein said alignment arm assembly comprises:

an engagement member configured for engaging said alignment guide; and an elongated arm joined to said engagement member.

32. An apparatus as recited in claim 31, wherein said elongated arm comprises a metallic member configured for being engaged and retained upon said engagement member.

33. An apparatus as recited in claim 32, wherein said metallic member comprises a protruding structure whose shape and size are configured for engaging a complementary mating structure within said engagement member.

34. An apparatus for retaining a radiographic sensor element, comprising:
a bite block;
a first jaw member extending from said bite block;
a second jaw member slidably engaged with said bite block and positioned in opposition to said first jaw member;
a threadable member engaged between said second jaw member and said bite block and configured for adjusting the distance between said first jaw member and said second jaw member; and
an alignment guide extending from said bite block.

35. An apparatus as recited in claim 34, further comprising protrusions extending from said bite block which are configured for engagement with dental structures.

36. An apparatus as recited in claim 34, further comprising a compliant cushioning member joined to at least one of said jaw members.

37. In a holder for a dental radiographic sensor having a second jaw member which moved along a predetermined number of ratcheted positions for friction-based securement in relation to a first jaw member which extends from a bite block forming the body of said holder, wherein the improvement comprises:

eliminating the ratcheted retention of said second jaw member;

configuring said second jaw member to provide continuously variable slidable engagement with said bite block; and

engaging a threaded member between said second jaw member and said bite block;

wherein said threaded member is adapted for providing continuously variable adjustment of the distance between said first jaw member and said second jaw member for providing secure retention of a radiographic sensor.

38. The holder as recited in claim 37, further comprising joining a rotational input receiving member to said threadable member for increasing rotational leverage upon said threadable member.

39. The holder as recited in claim 38, wherein said rotational input receiving member can be selected from the group of leverage increasing input members consisting of heads, knobs, and cranks.

40. The holder as recited in claim 37, further comprising a compliant cushioning member joined to at least one of said jaw members.

41. The holder as recited in claim 40, wherein said cushioning member comprises a compliant band of material.

42. The holder as recited in claim 41, wherein said compliant band comprises a compliant band of latex based material.

43. The holder as recited in claim 41, wherein said compliant band comprises a compliant band of silicone based material.